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November 9, 1992

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

RECEIVED
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: General Docket No. 90-314
ET Docket No. 92-100

Dear Ms. Searcy:

On behalf of Matsushita Communications Industrial Corporation of America, we are filing an original and five (5) copies of its Comments in the above-referenced proceedings.

If there are any questions, please contact the undersigned counsel.

Respectfully submitted,

FLETCHER, HEALD & HILDRETH

George Petrutsas
Counsel for Matsushita
Communications Industrial
Corporation of America

GP:cej
Enclosures

BEFORE THE

ORIGINAL

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's	)	General Docket 90-314
Rules to Establish New Personal	)	ET Docket No. 92-100
Communications Services	)	

COMMENTS OF MATSUSHITA COMMUNICATIONS INDUSTRIAL CORPORATION OF AMERICA

Matsushita Communications Industrial Corporation of America ("MCC") hereby submits its comments in response to the Notice of Proposed Rulemaking ("Notice") in the above-captioned proceedings.

I. INTRODUCTION

MCC markets its products under the Panasonic brand name. It is a major supplier of cellular mobile telephones as well as other business telephone equipment.[1] MCC plans to play a major role in providing the advanced equipment that will be needed in the development and operation of the various personal communications services ("PCS") contemplated in this proceeding. The comments that follow are from MCC's prospective as an equipment supplier and

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[1] MCC is currently investigating "wireless PBX" systems which would operate in the existing cellular spectrum allocation. Such wireless PBX systems would provide multiple access, advanced PBX service throughout a facility, such as a office, a factory, a warehouse, among other facilities. It would not be open to public access, and its coverage would be typically limited to a single building or perhaps a cluster of buildings. MCC believes that the foreseeable demand for wireless PBX can be accommodated within the existing cellular spectrum allocation and that such wireless PBX systems can share the cellular spectrum with radiotelephone service without interference. See Comments of Matsushita Communications Industrial Corporation of America filed in the proceeding, January 9, 1992. Therefore, MCC urges the Commission to take no action which might impede or discourage the development of such wireless facilities in the cellular service.

are confined primarily to the technical issues raised in the Notice.

II. COMMENTS

In general, MCC appreciates the need to provide for the shared use of the 2 GHz bands by incumbent fixed systems and by PCS systems during a substantial transition period of time. It must be pointed out, however, that such joint use would exact a heavy price in terms of reduced service quality, interference problems, and PCS equipment complexity and costs. Nevertheless, MCC understands that shared use of the 2 GHz bands for a transition period is necessary and does not oppose it. Its comments below are intended to aid the Commission in formulating rules that would reduce the severity of the those problems.

A. Size and configuration of spectrum blocks for PCS systems

In determining the blocks of spectrum to be assigned for PCS systems, the Commission should take into account the existing channelization of the 2 GHz bands, particularly the 1850-1990 MHz band, and should maintain consistency to the extent possible. Such consistency would ease coordination problems and would reduce the potential for interference. Moreover, it is highly desirable to retain the present frequency pairing; that is, the 80 MHz spacing between the transmit and receive frequencies. Also, consideration should be given to retaining the current 10 MHz channeling for PCS systems. Doing so would further facilitate sharing the band.

The Commission's proposal for assignable spectrum blocks for

PCS systems is somewhat inconsistent with the existing allocations. For example, existing allocations designate center frequencies and allow 5 MHz above and below to achieve 10 MHz channeling. Thus, the current 10 MHz assignable frequency blocks are:

1850 - 1860	paired with	1930 - 1940
1860 - 1870		1940 - 1950
1870 - 1880		1950 - 1960
1880 - 1890		1960 - 1970
1890 - 1900		1970 - 1980
1900 - 1910		1980 - 1990
	Unpaired	
	1910 - 1930	

The Commission's proposed 30 MHz channel blocks A, B, and C do not conform to existing OFS channelization and thus could result in coordination and interference problems.

In any event, MCC believes that the 80 MHz separation between transmit and receive frequencies is essential for the design and production of low cost equipment and should be retained regardless of the number and configuration of the assignable blocks.

In determining the size of the assignable blocks, the Commission should take into account the fact that small blocks result in poor spectrum efficiencies. Spectrum efficiency should not be compromised unreasonably in order to maximize competition.

B. Interference Protection of existing fixed (OFS) systems

MCC believes that conservative spectrum sharing standards should be adopted to protect existing fixed systems and new PCS systems because neither the OFS nor the proposed PCS services can tolerate interference. The underlying concepts of EIA/TIA TSB-10-E should be adhered to. An OFS system may consist of many stations

and interference may affect a number of stations and there can be a cumulative effect of interference, which TSB-10-E recognizes. It would be advisable that a standards body, such as TIA, review the effect of interference into OFS from PCS and visa versa before technical standards are developed by the Commission. MCC recommends allowing the TIA committee that is reviewing the Part 94 interference standards to complete its work and to take into account the Committee's conclusions.

MCC wishes to point out that the analytical method described in paragraphs 109 through 113 of the Notice and in the appendix for determining the potential interference to fixed microwave operations from PCS operations has some limitations. First, the analytical method described will only work if the distance between the fixed microwave receiver and the PCS is relatively large in comparison to the coverage area of the PCS. In the extreme case of a fixed microwave receiver inside the coverage area of a PCS, this analytical method would be of little or no value. Second, the input signal level at a fixed microwave receiver from PCS mobile and portable stations would be changing rapidly. The Notice specifies that a statistical propagation model be used for the path loss calculations, but this is not sufficient. Any statistical model used to predict interference to a fixed microwave receiver from mobile and portable PCS stations must take into account all of these factors.

C. Antenna height and power levels

MCC agrees that the power limitation for PCS, the Commission

has proposed; that is, 10 watts EIRP at 300 feet AAT for base stations, and 2 watts EIRP for mobile units, would be sufficient and should be adopted as maximum values. MCC would not recommend higher values. It appears that the Commission's alternative proposal for 7 watts EIRP for mobile units is based on expected high propagation losses at 2 GHz as opposed to 800 MHz. If so, it fails to recognize the higher effective EIRP's achievable with antennas at the higher frequencies. Further, all indications are that the public wants smaller, cheaper PCS units, and longer service times. Higher mobile powers would be inconsistent with the public's wishes. Therefore, MCC recommends against adoption of the alternative power and antenna limits discussed in Paragraph 116 of the Notice.

D. 2 GHz PCS to PCS Interference Standards

MCC believes it would be a mistake if the Commission does not establish interference limits between PCS systems. The Commission did not explain how it arrived at its proposed 47 dBu service contour. It is assumed that 8 dB was added to the Carey 39 dBu service contour to make up for the expected increased attenuation between 800 MHz and 2 GHz. In any event, the Carey formula can and should be used as the C/I 800 MHz protection ratio standard, or a new formula should be developed.

E. Unlicensed Services

MCC agrees with the proposal to allocate the 1910-1930 MHz for low power, unlicensed PCS operations. The proposed 10 MHz and 1.25 MHz channels are good choices for either CDMA based voice and data systems or for high speed data systems, such as LANs. The 100 KHz

channels would be useful for low speed data and voice systems. However, the proposal for overlaying the different size channels is troublesome. While overlaying would increase flexibility and utilization of the spectrum, it would also increase the potential for interference among the various systems. Therefore, MCC suggests that the Commission adopt its proposal to channelize the band into a single 10 MHz channel, five (5) 1.25 MHz channels, and fifty (50) 100 KHz channels but to leave the overlay matter open until needed in the future by which time more would be known about overlaying channels for unlicensed low power operations.

Further, MCC believes that detailed standards for unlicensed PCS devices would be very desirable and agrees that such standards be developed by an industry committee. The TIA Subcommittee on PCS, TR-45.4, would be a good choice for developing the standards.

F. The 900 MHz allocation

MCC supports the Commission's proposal for the allocation and use of the 901-902, 930-931 and 940-941 MHz, MCC also supports the proposal to pair the frequencies in the 901-902 MHz band with those in the 940-941 MHz band. The requirements for "personal" two-way communications with hand-held devices would be better served if these frequencies are "paired" and are assigned as such. There are already sufficient allocations for un-paired, single frequency services. However, MCC would suggest that the proposed 50 KHz assignments might not be sufficient for some purposes so that the Commission's rules should allow, upon proper showing, the aggregation and combined use of more than one 50 KHz channel.

II. CONCLUSION

MCC supports the Commission's proposal to establish new PCS services and hopes that the foregoing comments are helpful and would be taken into account in reaching final decisions in this important matter.

Respectfully submitted,

MATSUSHITA COMMUNICATION INDUSTRIAL CORPORATION OF AMERICA

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